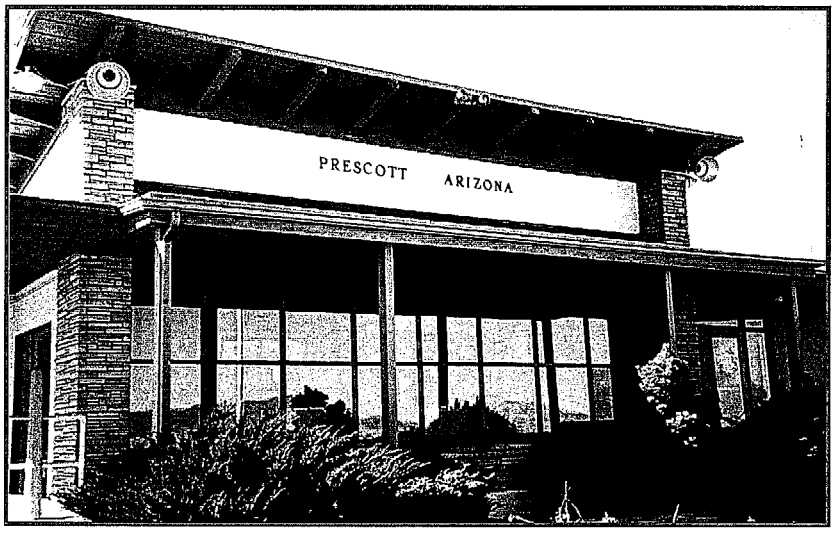
Chapter One
INVENTORY

INVENTORY



The development of an Airport Master Plan for Ernest A. Love Field requires the collection and evaluation of various data related to the airport, the community, and the surrounding region. This information includes the following.

- Physical inventories and descriptions of facilities and services provided at the airport.
- A review of historical aviation activity and air traffic procedures at Ernest A. Love Field, and an assessment of local airspace conditions.
- The compilation of background information pertaining to the airport, the City of Prescott, the Town of Prescott Valley, the Town of Chino Valley, Yavapai County and the surrounding region.
- The compilation of population, employment, and income statistics which might provide an indication of future growth in the region.
- A comprehensive review of existing local, regional, and state plans and studies to determine their potential influence on the airport.

An accurate and complete inventory is essential to the success of the airport master plan study. The findings and recommendations made in the airport master plan are heavily dependent on the information collected during the inventory; therefore, the information collected must be as reliable and up-to-date as possible. The information summarized in this chapter was obtained through on-site investigations of the airport and interviews with airport management, representatives of

the City of Prescott, Yavapai County, Town of Prescott Valley, Town of Chino Valley, airport businesses, airport users, ADOT - Aeronautics Division, and the Federal Aviation Administration (FAA). Additional information was collected from historical records, available documents and studies concerning local communities and Ernest A. Love Field.

AIRPORT SETTING

Ernest A. Love Field is located in central Arizona within Yavapai County under the jurisdiction of the City of Prescott. The airport is owned and operated by the City of Prescott, and serves as the only commercial air service airport in the region. Situated approximately seven miles north of Downtown Prescott, the airport is located in Sections 24 and 25, Township 15 North, Range 2 West, and Section 19, Township 15 North, Range 1 West. The official airport elevation is 5,042 feet Mean Sea Level (MSL). Access to the airport is provided by U.S. Highway 89, via MacCurdy Drive. **Exhibit 1A, Vicinity Map**, illustrates Ernest A. Love Field and its environs.

HISTORICAL PERSPECTIVE

The historical development and aviation activity at an airport can provide valuable insight to the airports genesis. The following sections outline the development history and activity associated with Ernest A. Love Field.

AIRPORT DEVELOPMENT REVIEW

Ernest A. Love Field was originally constructed in 1926 as Prescott Municipal Airport. In 1929, the airport was renamed as Ernest A. Love Field after a former Prescott pilot shot down in aerial combat over France in World War I.

During the late 1930's and early 1940's, the airport was the site of a civilian pilot training program. Due to the increased need for additional pilots during World War II, the Work Program Administration paved the two intersecting dirt runways.

In 1945, the City of Prescott purchased the airport. At the time, the airport had 20 based aircraft and over 1,000 operations per month. In addition to general aviation activity, Arizona Airways provided commercial air service to five neighboring states using the "new" DC-3 aircraft.

In 1947, the U.S. Weather Bureau established a full-service observation station which provided complete weather observations and briefings to pilots. Later in the 1940's, an administration building, fencing, and security lighting were constructed at the airport.

During the 1950's, many improvements were completed at Ernest A. Love Field including the 1,615 foot extension to Runway 3-21, improvements to the water system, the reconstruction of the parallel taxiway to Runway 3-21, expansion of the Terminal Building, and the reconstruction of Runway 3-21.

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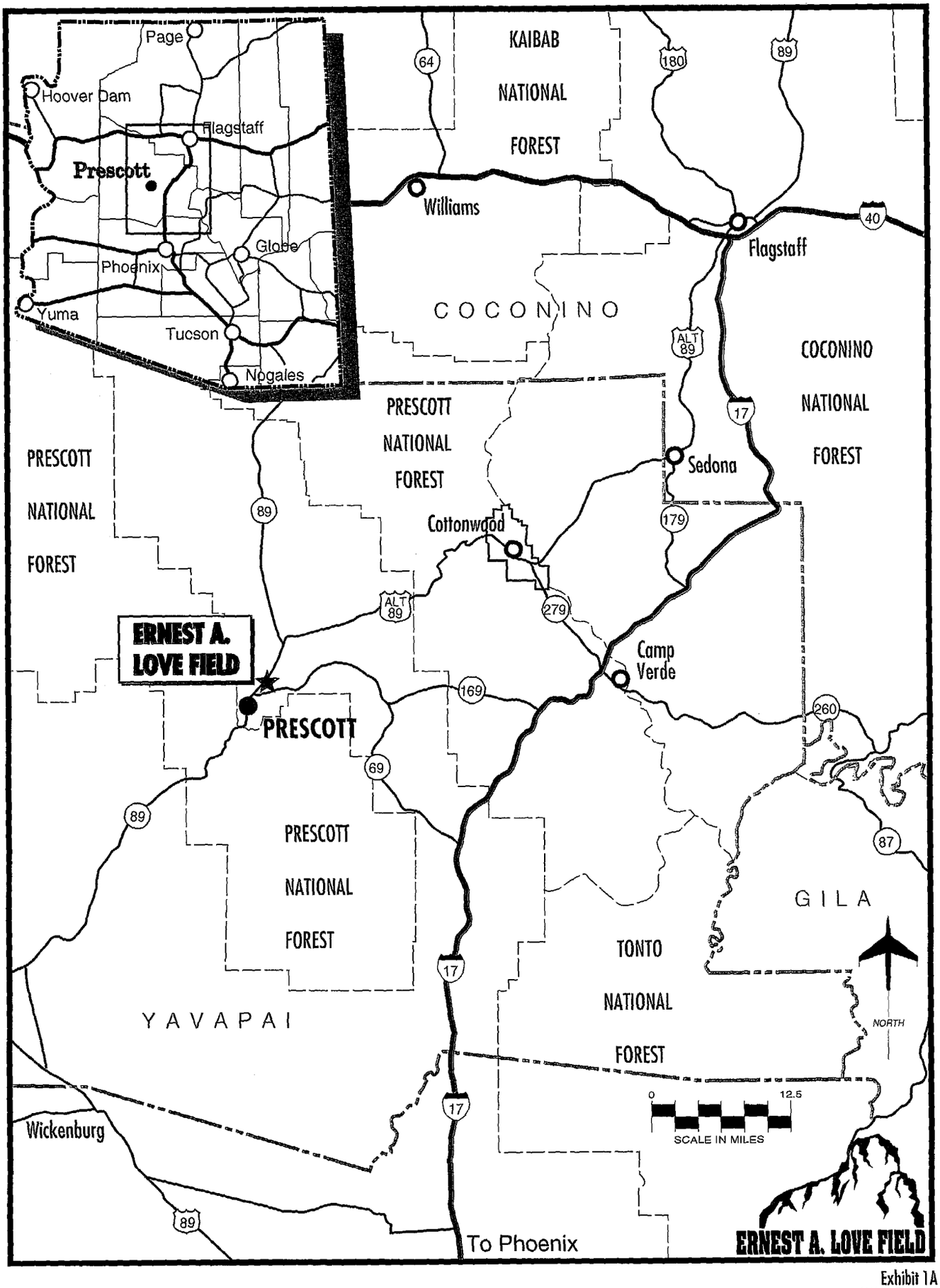

Exhibit 1A
VICINITY MAP

From 1964 to 1974, no major improvements were conducted at Ernest A. Love Field. This was due to lack of federal funding eligibility.

During the late 1970's, Medium Intensity Runway Lighting (MIRLs) and Medium Intensity Taxiway Lighting (MITLs) were installed, as well as a new electrical vault and airport beacon.

Development in the 1980's included the reconstruction of Runway 12-30 and installation of MIRLs, installation of a Visual Approach Slope Indicator (VASIs) system, reconstruction of Runway 3-21, acquisition of additional airport property, and the construction of additional apron area.

During the early 1990's, Runway 3L-21R, the parallel runway, was constructed, as well as the associated taxiway connectors. In addition, MIRLs and Precision Approach Path Indicators (PAPIs) were installed on this new runway.

HISTORICAL AVIATION ACTIVITY

In order to provide the most basic indicators of aviation growth, a review of historical aviation activity was conducted on Ernest A. Love Field. This data will be valuable in the following chapter during the preparation of the various aviation forecasts.

Table 1A, Historical Activity, provides the historical data for total airport operations, passenger enplanements, and based aircraft at Ernest A. Love Field. An operations is defined as either a takeoff or a landing performed by an aircraft. The number of passenger enplanements refer to the number of people which board a commercial aircraft for another destination. The number of based aircraft at an airport typically refers to the number of aircraft stored at that airport. **Exhibit 1B, Historical Activity**, provides a graphical depiction of the historical activity over the last decade at Ernest A. Love Field.

TABLE 1A
Historical Activity
Ernest A. Love Field

Year	Total Operations	Passenger Enplanements	Based Aircraft
1985	42,681[1]	8,209	186
1986	176,546	N/A	N/A
1987	209,058	7,566	208
1988	247,700	8,113	N/A
1989	268,039	8,826	N/A
1990	289,929	9,946	268
1991	264,237	5,714	239
1992	295,049	9,847	242
1993	241,494	12,891	244
1994	320,410	13,214	265
1995	346,684	10,256	257

Notes: [1] Traffic count from Sept. 15, 1985 through Dec. 31, 1985, N/A - Not Available

Sources: Ernest A. Love Field Airport Traffic Control Tower and Airport Administration

EXISTING AIRPORT FACILITIES

The airport is generally divided into three distinct types of facilities: airside, landside, and support. The airside facilities consist of the runways, taxiways, navigational aids, and marking and lighting. The landside facilities generally consist of the terminal building, hangars, apron tiedowns, auto parking, etc. The support category generally includes those items not defined in the previous two categories, such as fuel storage, utilities, and firefighting facilities. Each of these three categories are further described in the following sections.

AIRSIDE FACILITIES

The airside facilities at Ernest A. Love Field include the runways, taxiways, navigational aids, and marking and lighting associated with the airport. In addition to the following description of the airside facilities, **Exhibit 1C, Existing Facilities**, provides a graphical depiction of the various facilities and their locations.

Runway 3R-21L

Runway 3R-21L is the primary runway at Ernest A. Love Field. According to the February 1996, *Department of Commerce/National Oceanic and*

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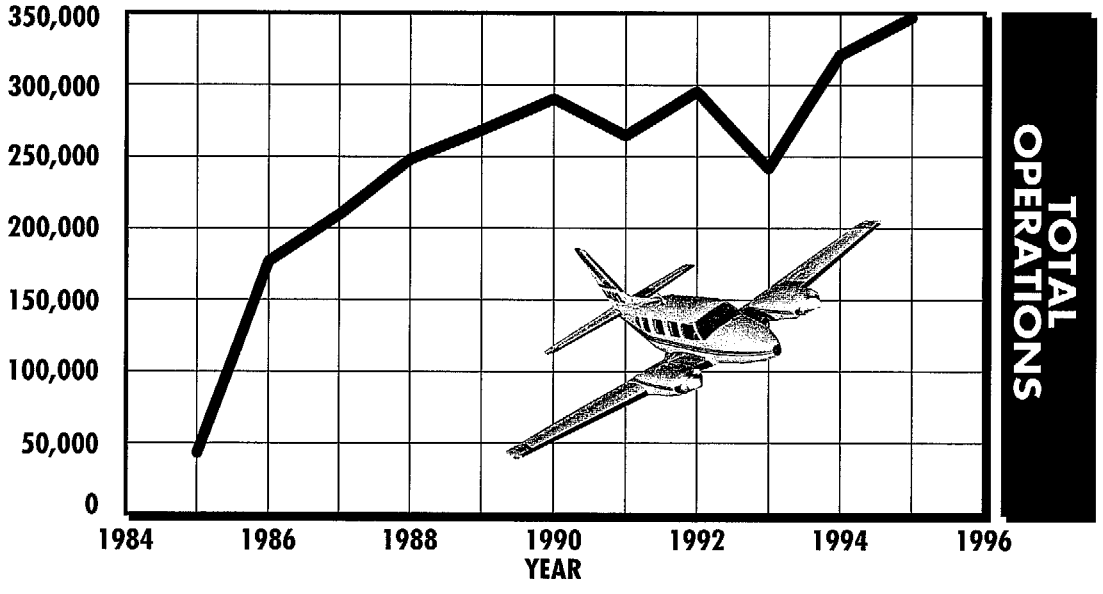

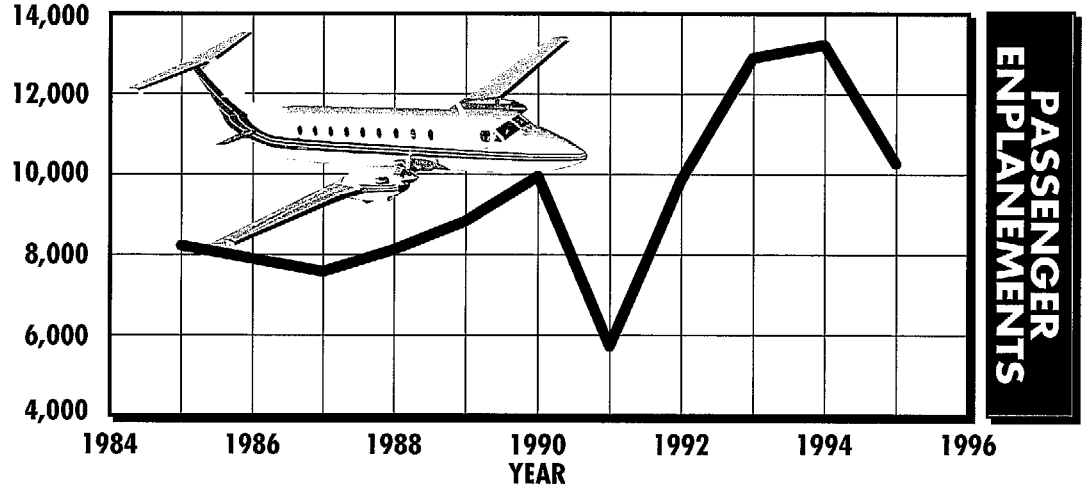

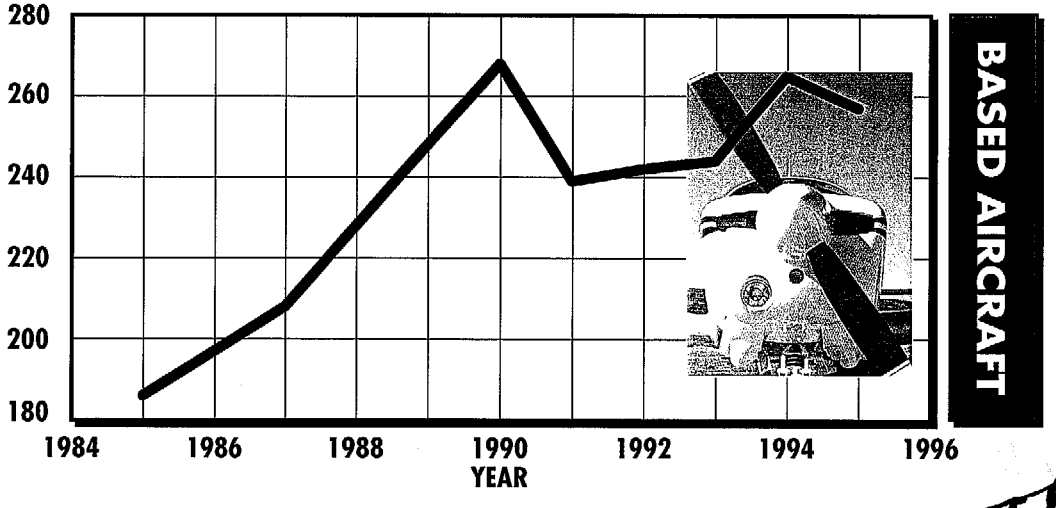

ERNEST A. LOVE FIELD

Exhibit 1B
HISTORICAL ACTIVITY

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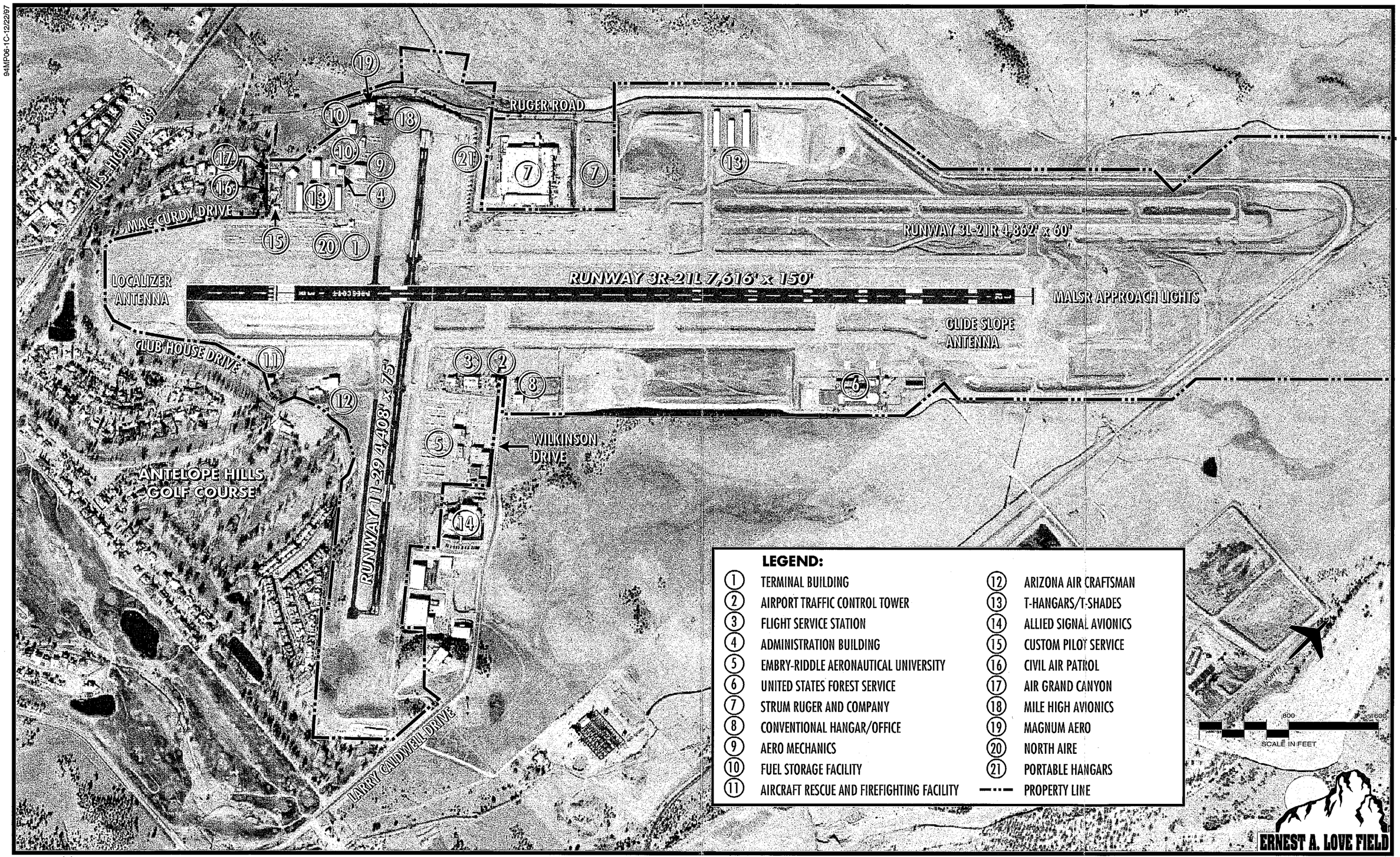

LEGEND:

1	TERMINAL BUILDING	12	ARIZONA AIR CRAFTSMAN
2	AIRPORT TRAFFIC CONTROL TOWER	13	T-HANGARS/T-SHADES
3	FLIGHT SERVICE STATION	14	ALLIED SIGNAL AVIONICS
4	ADMINISTRATION BUILDING	15	CUSTOM PILOT SERVICE
5	EMBRY-RIDDLE AERONAUTICAL UNIVERSITY	16	CIVIL AIR PATROL
6	UNITED STATES FOREST SERVICE	17	AIR GRAND CANYON
7	STRUM RUGER AND COMPANY	18	MILE HIGH AVIONICS
8	CONVENTIONAL HANGAR/OFFICE	19	MAGNUM AERO
9	AERO MECHANICS	20	NORTH AIRE
10	FUEL STORAGE FACILITY	21	PORTABLE HANGARS
11	AIRCRAFT RESCUE AND FIREFIGHTING FACILITY		PROPERTY LINE

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Exhibit 1C
EXISTING FACILITIES

Atmospheric Administration (DOC/NOAA) Airport/Facility Directory, Runway 3R-21L is 7,616 feet in length and 150 feet in width. It is constructed of asphalt with a porous friction course surface having a weight bearing capacity of 63,000 pounds single-wheel loading (SWL) and 80,000 pound dual-wheel loading (DWL). The runway has an effective runway gradient of 0.96 percent, sloping up towards the southwest. In order to provide adequate approach clearance over an adjacent roadway (Clubhouse Drive), the approach end of Runway 3R includes a 790-foot displaced threshold.

Runway 3L-21R

Runway 3L-21R is considered the parallel, training runway. According to the *Airport/Facility Directory*, Runway 3L-21R is 4,862 feet in length and 60 feet in width. The runway is constructed of asphalt, however, it has no additional surface treatment. The runway has a weight bearing capacity of 12,500 pounds SWL. The runway has an effective runway gradient of 0.75 percent, sloping up towards the southwest. In order to provide adequate approach clearance over the adjacent apron and Strum, Ruger and Company development, the approach end of Runway 3L includes a 800-foot displaced threshold.

Runway 12-30

Runway 12-30 is considered the crosswind runway at Ernest A. Love Field. According to the *Airport/Facility Directory*, Runway 12-30 is 4,408 feet in length and 75 feet in width. The runway is constructed of asphalt and has no additional surface treatment. The runway has a weight bearing capacity of 12,500 pounds SWL. The runway has an effective runway gradient of 0.64 percent, sloping up towards the southeast.

Table 1B, Runway Data Summary, provides a summary of the facility data associated with each of the runways at Ernest A. Love Field.

TABLE 1B
Runway Data Summary
Ernest A. Love Field

	RUNWAY					
	3R	21L	3L	21R	11	29
Length (ft)	7,616		4,842		4,408	
Width (ft)	150		60		75	
Surface Material	Asphalt		Asphalt		Asphalt	
Surface Treatment	Porous Friction Course (PFC)		Asphalt-Rubber Porous Friction Course		None	
Pavement Strength						
Single-Wheel Loading (lbs)	63,000		12,500		12,500	
Dual-Wheel Loading (lbs)	80,000		N/A		N/A	
Navigational Approach Aids/Visual Aids						
Instrument Landing System (ILS)	No	CAT-I	No	No	No	No
Very High Frequency Omnidirectional Range (VOR)	No	No	No	No	Yes	No
Global Positioning Satellite System (GPS)	No	Yes	No	No	Yes	No
Area Navigation (RNAV)	No	Yes	No	No	No	No
Precision Approach Path Indicators (PAPIs)	Yes	Yes	Yes	Yes	Yes	Yes
Medium Intensity Approach Lighting System (MALSRs)	No	Yes	No	No	No	No
Runway End Identifier Lights (REILs)	Yes	Yes	No	No	No	No
Approach Slope (horizontal:vertical)	20:1	50:1	20:1	20:1	20:1	20:1
Runway Lighting	MIRL		MIRL		MIRL	
Runway Markings	Visual	Precision	Visual	Visual	Nonprec.	Visual

Source: DOC/NOAA Airport/Facility Directory, February 29, 1996

Taxiways

Taxiways are provided to facilitate aircraft movement from the runway system to the landside facilities. Ernest A. Love Field is equipped with parallel and connecting taxiways for each of the three runways. Runway 3R-21L is served by two full-length parallel taxiways, one on each side of the runway, as well as seven connecting taxiways on each side of the runway. Runway 3L-21R is equipped with a full-length parallel taxiway on the northwest side, with five associated connecting taxiways, however, the southeast side of the runway is served by a portion of the Runway 3R-21L parallel taxiway. Two connecting taxiways are provided to this parallel taxiway. Runway 12-30 does not include a full-length parallel taxiway. The southwest side of the runway is served by a semi-parallel taxiway from the end of Runway 30 to the terminal area apron. A portion of this apron is utilized as the remaining taxiway connection to the end of Runway 12. A short parallel taxiway is provided on the northeast side of the runway, serving the Embry-Riddle Aeronautical University (ERAU) facilities.

Navigational Aids

Navigational aids (Navaids) provide direction, range and/or position information to pilots. Navaids are usually classified as either *enroute* or *terminal*. The enroute navaids provide point-to-point navigation, while terminal navaids typically provide approach and landing guidance, some navaids serve as both enroute and terminal navaids.

Enroute Navaids

Enroute navaids are comprised of two basic types of equipment, the VOR (very high frequency omnidirectional range) and the VORTAC (VOR/tactical air navigation). The VOR provides bearing (direction) information to pilots while a VORTAC produces both bearing and distance information. The VOR is commonly linked with a DME (distance measuring equipment) to provide nearly identical service as the VORTAC. The VOR transmits radio signals every degree providing 360 individual courses from the transmitting facility. Both DME and TACAN (tactical air navigation system) provide slant-range to the station in nautical miles (NM). The VOR, a VHF (very high frequency) facility and the TACAN, a UHF (ultra high frequency) facility, are limited to line-of-sight transmissions; their ranges are also affected by the altitude of the aircraft.

The nearest enroute navaid to Ernest A. Love Field is the Drake VORTAC. The Drake VORTAC is located approximately 4.2 NM northwest of the airport. This enroute facility is also used as a terminal navaid to the airport.

Terminal Navaids

Terminal navaids are typically those located at or in the vicinity of an airport and serve to assist the pilot in flying the appropriate direction or glidepath to a particular runway end or the airport in general. Currently, there are two terminal navaids serving Ernest A. Love Field: an Instrument Landing System (ILS) for approaches to Runway 21L and the Drake VORTAC for approaches to Runway 11. The instrument approach procedures provided by these navaids are described later in this chapter. **Table 1C, Navigational Aid Data**, summarizes the terminal area navaids at Ernest A. Love Field.

TABLE 1C
Navigational Aid Data
Ernest A. Love Field

Name	Identifier	Frequency	TACAN Channel	Location
Ernest A. Love Field ILS	I-PRC	108.5	22	On-Airport
Drake VORTAC	DRK	114.1	88	4.2 NM to the NW

Notes: NM - nautical mile, NW - northwest
Source: DOC/NOAA Airport/Facility Directory, dated February 29, 1996.

Lighting and Markings

A variety of lighting and marking aids are available at Ernest A. Love Field to facilitate airport identification, approaches and landing at night and during adverse weather conditions. These systems are categorized by function and are further described in the following sections.

Identification Lighting

The location and presence of an airport at night or during adverse weather conditions is universally indicated by an airport beacon. The airport beacon is equipped with an optical system that projects two beams of light, one green and one white. At Ernest A. Love Field, the airport beacon is located on the south side of Runway 12-30.

The airport is also equipped with a segmented circle, which provides the pilot with a visual reference of the traffic pattern at the airport. In conjunction with the segmented circle, is a lighted windcone. Windcones provide the pilot with a visual reference of the surface wind conditions at the airport.

Runway and Taxiway Lighting

All three runways at Ernest A. Love Field are equipped with Medium Intensity Runway Lighting (MIRL) which outline each runway with white lights. Each taxiway is equipped with

Medium Intensity Taxiway Lighting (MITL) which outline the taxiways with blue lighting.

Approach Lighting

Runway 3R-21L is equipped with a Precision Approach Path Indicator (PAPI) four light (4L) system on the left side of each runway end. PAPI-4L is a system of four identical light units placed in a line perpendicular to the runway centerline. The lights are positioned and aimed to produce a signal presentation of four red lights for a low approach path, four white lights for a high approach path, and a combination of red and white to indicate on the glide path. According to the *DOC/NOAA Airport/Facility Directory*, the PAPI-4L system for Runway 3R is set at a 4.0 degree glide path, while the Runway 21L PAPI-4L is set at a 3.0 degree glide path.

The remaining four runway ends are equipped with a similar PAPI system, however, these runways have the two-light system or PAPI-2L. According to the *DOC/NOAA Airport/Facility Directory*, all of the PAPI-2L systems at Ernest A. Love Field are set at a 3.0 degree glide path.

The approach end of Runway 21L is equipped with a Medium Intensity Approach Lighting System with runway alignment indicator lights (MALSR). The MALSR system provides visual guidance to landing aircraft by radiating light beams in a directional pattern by which the pilot aligns the aircraft with the extended center line of the runway.

Runway 3L-21R is also equipped with Runway End Identifier Lights (REILs). REILs are high intensity strobe lights that provide the pilot with positive identification of the runway threshold. These lights are particularly useful during periods of low visibility or at night.

Pavement Markings

Pavement markings are used on runway and taxiways surfaces to identify a specific runway, runway threshold, centerline, holdline, etc. Runways are marked with white markings in accordance with the approach type available to each runway end. At Ernest A. Love Field, Runway 21L has pavement markings representing precision approach capabilities, Runway 12 has non-precision markings, and the remaining runway ends are marked with visual approach markings. The taxiway system at Ernest A. Love Field includes yellow centerline markings.

LANDSIDE FACILITIES

In addition to the airside facilities described, landside facilities are essential to the daily operation of Ernest A. Love Field. Landside facilities primarily consist of those facilities required to accommodate aircraft, pilots, and passengers while they are at the airport. Landside facilities typically include the terminal building, hangars, aircraft parking aprons, and auto parking. The landside facilities associated with Ernest A. Love Field are described in the following sections.

Terminal Building

The terminal building at Ernest A. Love Field is located west of the intersection of Runways 3R-21L and 12-30 and is accessible via MacCurdy Drive. The existing building is approximately 3,800 square feet (SF) in size and was originally constructed in 1948 and expanded in 1957. The terminal building is currently occupied by America West Express, Skyway Restaurant, Northaire, Inc., and two rental car companies. The following paragraphs describe the tenants currently utilizing the terminal building.

America West Express

America West Express (operated by Mesa Airlines) currently provides commuter air service to and from Phoenix Sky Harbor International Airport (PHX). The airline offices and ticket counter area occupies approximately 227 SF of the terminal building. Five daily flights to PHX are provided utilizing the 19 seat Beechcraft 1900 aircraft. The airline offices are staffed by five full-time employees, with ticket counter hours from 8:00 am to 9:00 pm daily.

Arizona Skyways

Arizona Skyways, an aircraft on-demand charter company, currently leases approximately 185 SF of the existing terminal building. Arizona Skyways currently utilizes Cessna single-engine aircraft for their charter activity.

Northaire, Inc.

Northaire, Inc., a fixed-based operator (FBO), occupies approximately 886 SF of the terminal building. Northaire provides flight training, aircraft rental, aircraft maintenance, and aircraft charter service. Currently, Northaire employs 15 staff members.

Rental Car Companies

Currently, two rental car companies lease counter space within the terminal building. Both Hertz and Budget Rent-a-Car lease approximately 10 LF of counter space.

Skyway Restaurant

Skyway Restaurant occupies approximately 1,100 SF of the existing terminal building. The restaurant is open Monday through Saturday from 6:30 a.m. to 4:00 p.m. and Sundays from 6:30 a.m. to 3:30 p.m.

Airport Administration Building

The City of Prescott Airport Administrative offices are located in the terminal area, west of the Terminal Building. This building was constructed in 1973, and currently houses the airport administrative offices, as well as the fueling counter. The building is a 4,800 SF, two-story facility. The first floor is used primarily for the airport

staff, and the second floor is leasable tenant space. One tenant, Flight Dynamics, leases approximately 67 SF on the second floor.

Aviation Related Businesses

In addition to those business located in the terminal building, there are six additional businesses at Ernest A. Love Field which may be classified as aviation related businesses. These types of businesses typically provide a wide variety of pilot/aircraft services, including aircraft maintenance, aircraft rental, and pilot training. **Table 1D, Aviation Related Businesses**, identifies these businesses and the services they provide.

TABLE 1D
Aviation Related Businesses
Ernest A. Love Field

Tenant	Services Provided
Aero Mechanics, Inc.	Major aircraft/engine maintenance, parts, upholstery and interiors
Air Grand Canyon	Aircraft charter/scenic air tours
Arizona Air-Craftsman	Major aircraft/engine maintenance
Custom Pilots Service, Inc.	Pilot training and aircraft rental
Flight Safety Dynamics	Aerobatic training
Magnum Aero	Major aircraft/engine maintenance
Mile High Avionics, Inc.	Avionics sales and service
Prescott Aircraft	Major aircraft/engine maintenance and parts
Tail, Wheels & More	Pilot training and spin training

Source: Airport Administration and Businesses

Other Airport Users

In addition to the traditional airport businesses, Ernest A. Love Field is home to two other significant airport users. A brief description of these two users is included in the following sections.

Embry Riddle Aeronautical University

The Embry Riddle Aeronautical University (ERAU) flight training facilities are located east of the intersection of Runway 3R-21L and Runway 12-30. These facilities consist

of approximately 23,000 SF of office space, 10,000 SF of hangar space, and 50 tiedown spaces. This facility currently employs approximately 100 full-time and 75 part-time employees. On the average, approximately 700 students participate in the ERAU flight training activities annually.

United States Forest Service

The United States Forest Service (USFS) maintains a fire fighting facility near the end of Runway 21L. This facility, built in 1991, consists of approximately 22,000 SF of office/warehouse space, three 10,000 gallon and one 5,000 gallon above-ground storage tanks. The three larger tanks are used to store a concentrated fire retardant material which is used to suppress forest fires. The smaller tank is for water storage, which is mixed with the retardant to produce approximately 150,000 gallons of fire retardant material. Currently, the USFS uses a variety of aircraft, however, Lockheed P-3, P-2V and C-130, and the Douglas DC-4 and DC-6 aircraft are generally used at the Prescott location. During the winter months, the facility employs approximately 13 full-time staff members, however, during the summer months approximately 65-70 staff members are employed.

Apron Area and Hangars

Apron areas and hangars at airports are provided for aircraft owners to park their aircraft. At Ernest A. Love Field, 97 aircraft tiedowns, 84 T-hangars, and 20 shade hangars are provided for locally based aircraft owners. **Exhibit 1C**, illustrates the locations of the aircraft parking facilities at Ernest A. Love Field.

Adjacent Commercial/ Industrial Development

Adjacent to the airport is the Sturm, Ruger and Company. Sturm, Ruger and Company is a manufacture of guns and golf clubs. Currently, the facility is expanding from 200,000 SF to 360,000 SF. The existing facility employs approximately 530 employees, however, the expansion is expected in increase employment to 930 employees.

SUPPORT FACILITIES

Airport support facilities are those that are not classified as airside or landside facilities, however, they play an important role in the day-to-day operation of the airport.

Utilities

The availability of utilities serving the airport is an important factor in determining the development potential of the airport property. Of primary concern in the inventory investigation is the availability of electricity, water, sanitary sewer, and gas. Some, if not all, of these utilities will be necessary for future development at Ernest A. Love Field. The airport is currently served by the following utilities.

- Electricity is provided to the airport by the Arizona Public Service Company. Currently, a 69 kV transmission line provides power to the airport area.

- Water source for the airport is via five wells located in Chino Valley, approximately seven miles north of the airport. Using an 8-inch water main, these five well produce up to eight million gallons of water per day for the entire city as well as the airport.

- Sanitary sewer at the airport is though the City's main sewer system. An 8-inch vitrified clay pipe serves the terminal area facilities.

- Natural gas is supplied by Citizens Utilities through 4-inch and 2-inch gas lines. These gas lines provide service to most facilities in and around the airport area.

Firefighting Facilities

The firefighting facility is located adjacent to the airport on Club House Drive. Currently, two (2) support vehicles are stationed at that location, one for structure fires and the other for aircraft related fires.

Fuel Storage Facilities

The City of Prescott owns and operates five underground fuel storage tanks and one above-ground storage tank. Two 20,000 gallon and one 10,000 gallon underground tanks for Avgas and one 20,000 gallon and two 10,000 gallon underground tanks for Jet A. Another 10,000 gallon underground tank provide storage for unleaded automobile fuel. An additional 500 gallon above-ground tank is used for the storage of diesel fuel.

AIRSPACE AND AIR TRAFFIC CONTROL

An analysis of the airspace structure and usage in the vicinity of Ernest A. Love Field is necessary to determine the operational interaction among various types of airspace and users. Flights in and out of Ernest A. Love Field are conducted under VFR and IFR conditions. VFR conditions exist when flight visibility is three miles or greater and the cloud ceiling is at least 1,000 feet above the ground. IFR conditions exist when weather conditions fall below VFR conditions.

AIRSPACE STRUCTURE

Since the inception of aviation, nations have set up procedures within their territorial boundaries to regulate the use of airspace. Until 1993, the system used to regulate airspace in the United States was different than those found in other countries. In order to be consistent with international standards, the U.S. reclassified their airspace as Class A, B, C, D, E, and G. The basic premise of the use of airspace remains the same: airspace is still classified as either controlled or uncontrolled. The airspace classifications are graphically illustrated on **Exhibit 1D, Airspace**

Classifications. The following sections describe those airspace classifications associated with Ernest A. Love Field.

Prescott Class D Airspace

Class D Airspace is associated with airports with operating airport traffic control towers. The Ernest A. Love Field ATCT (Prescott Tower) operates daily from 7:00 a.m. to 9:00 p.m. Prescott Class D Airspace, illustrated on **Exhibit 1E, Airspace**, consists of a section of airspace which extends approximately 5 NM to the north and approximately 2.5 NM to the south. The airspace section is similar to the shape of a slice of pie. This airspace extends from the surface up to but not including 7,500 MSL. The operating aircraft in this airspace are required to contact Prescott Tower prior to entering. During the times that the ATCT is closed, this Class D Airspace reverts to Class E Airspace.

AIRWAYS

Aircraft operating on an IFR flight plan, whether in actual IFR conditions or not, are governed by the IFR instrument procedures. Most all air carrier, business jets, and military aircraft operations are conducted under IFR procedures. Published procedures for instrument approaches outline the required flight paths and altitudes.

Aircraft normally travel between airports via electronic airways. These airways are marked on aeronautical charts, connecting enroute navaids that assist pilots in controlling their aircraft along these specified routes. There are two types of airway systems: the Low Altitude System (Victor Airways); and the High Altitude System (Jet Routes). The Victor Airway System begins at 1,200 feet AGL and extends upward to 18,000 feet MSL (or Flight Level 180). The Jet Routes, layered above the Victor Airways, begin at FL 180 and extend upward to 45,000 feet MSL (or FL 450).

Because the Drake VORTAC is a primary enroute navaid in the region, seven Victor Airways are provided to and from the Drake VORTAC. Each of these airways are indicated on **Exhibit 1E**.

AIRPORT PROCEDURES

Airports commonly establish traffic patterns associated with each runway at the facility. These traffic patterns provide pilots with the proper direction from which to arrive and depart the airport. These traffic patterns are most commonly used during VFR weather conditions. At Ernest A. Love Field, Runways 3R, 3L, 11, and 29 have left-hand traffic, while Runway 21L and 21R have right-hand traffic.

During IFR weather conditions, pilots follow established arrival and departure procedures. There are three instrument approach procedures currently available at Ernest A. Love Field, the ILS/DME RWY21L, the VOR or GPS RWY 11, and the RNAV or GPS RWY 21L. The ILS/DME RWY 21L approach procedure

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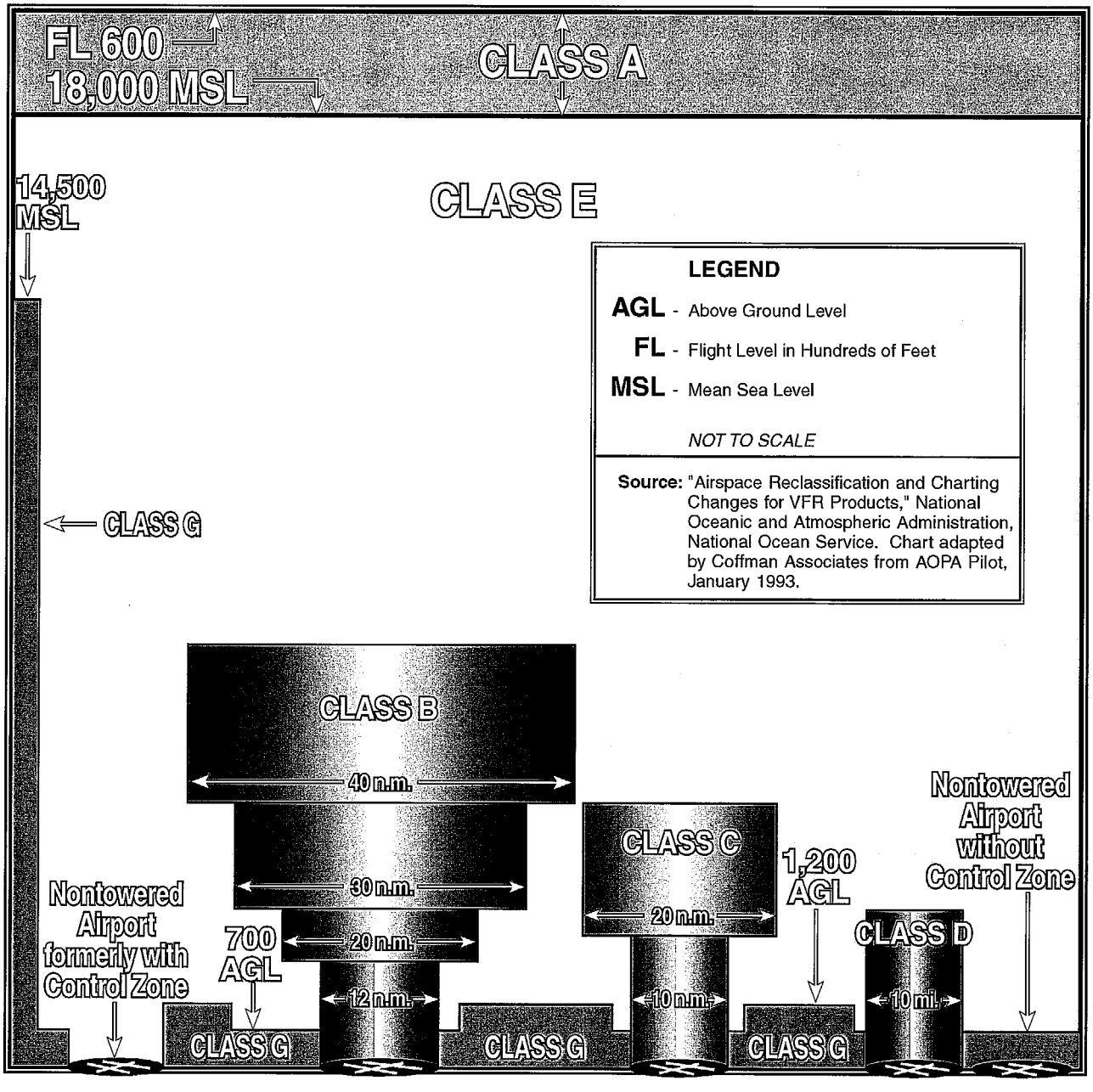
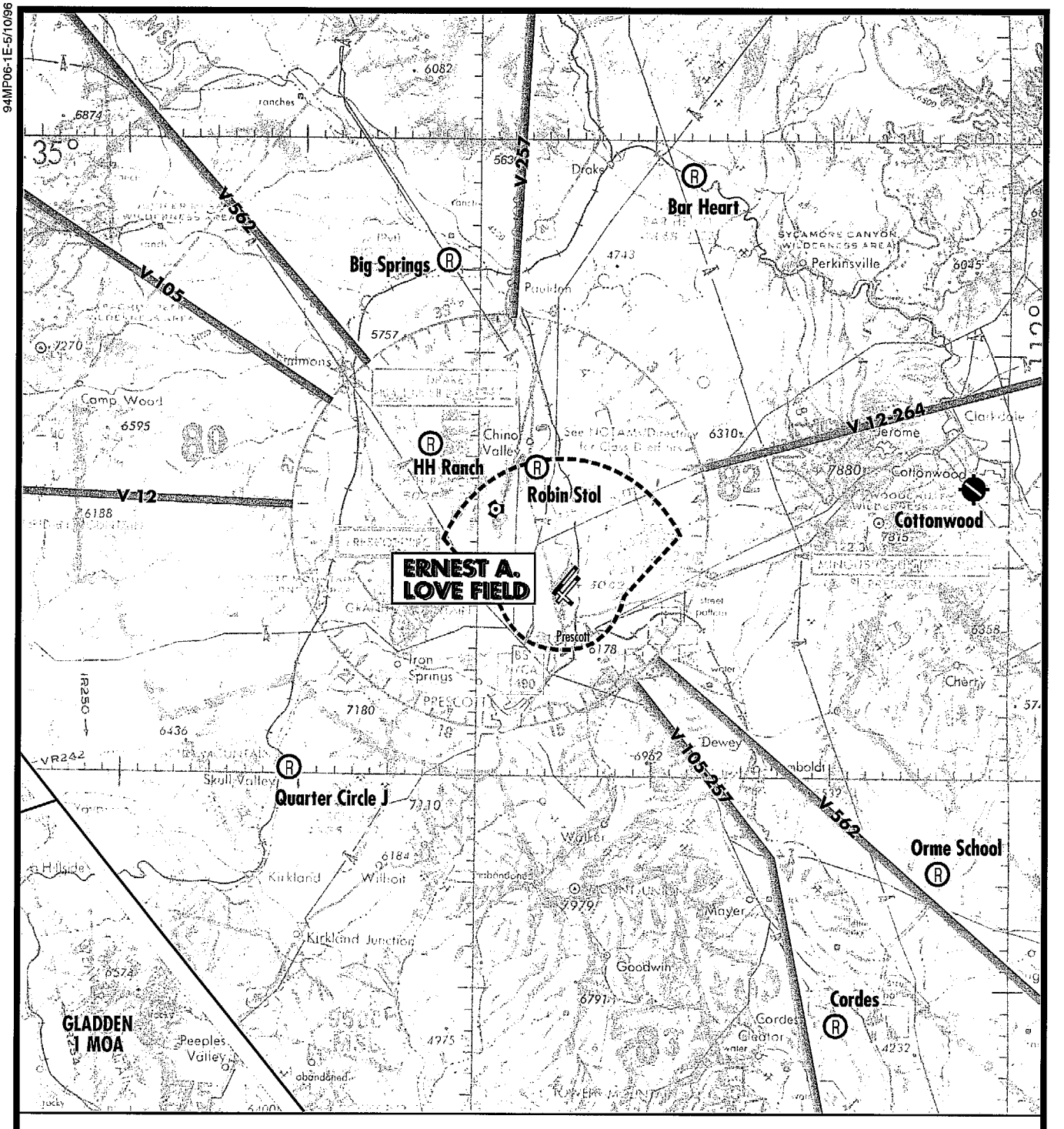


NEW CLASSIFICATION	OLD CLASSIFICATION
CLASS A	Positive Control Area, Continental Control Area (part)
CLASS B	Terminal Control Area (TCA)
CLASS C	Airport Radar Service Area (ARSA)
CLASS D	Control Zone with Tower, Airport Traffic Area
CLASS E	Continental Control Area (part), Transition Areas, Control Zones without Tower
CLASS G	Uncontrolled Airspace

ERNEST A. LOVE FIELD

Exhibit 1D
AIRSPACE CLASSIFICATION

94MP06-1E-5/10/96



LEGEND:

- Hard-surfaced runways 1500 ft. to 8069 ft. in length
- Hard-surfaced runways greater than 8069 ft.
- Private
- Services available
- VORTAC
- VICTOR Airways
- Class D Airspace
- MOA- Military Operations Area

NORTH

0 8 16

SCALE IN MILES

ERNEST A. LOVE FIELD

Exhibit 1E
AIRSPACE

is a precision instrument approach to Runway 21L in weather conditions at or above a 200-foot cloud ceiling and visibility of one-half mile (CAT-I approach). The VOR or GPS RWY 11 approach procedure, provided from the Drake VORTAC or GPS system, allows for a straight-in approach to Runway 11 in weather conditions at or above a 400-foot cloud ceiling and visibility down to one mile. The RNAV or GPS RWY 21L approach provides the same capabilities as the VOR or GPS RWY 11 approach procedure.

Departing IFR aircraft on Runways 11 and 21L are to turn right and proceed direct to the Drake VORTAC. Departing IFR aircraft on Runway 3 are to turn left, proceeding to the Drake VORTAC. The IFR departures from Runway 29 are to maintain runway heading, then direct to the Drake VORTAC. Upon reaching the Drake VORTAC, all aircraft are to climb via the Drake R-305 radial to 8,000 feet MSL, then follow filed IFR flight plan.

AIRPORT TRAFFIC CONTROL TOWER

The Ernest A. Love Field Airport Traffic Control Tower (Prescott Tower) operates daily from 7:00 am to 9:00 pm, controlling aircraft within the Prescott Class D Airspace. This facility also coordinates IFR arrivals and departures with the Albuquerque Air Route Traffic Control Center (ARTCC).

An additional air traffic service is also provided at Ernest A. Love Field by the Prescott Automated Flight Service Station (FSS). The FSS provides pilots with weather information, airport advisory service, flight plan processing, and communication with other air traffic facilities.

SOCIOECONOMIC FACTORS

Socioeconomic information, consisting of demographic, economic, employment and governmental data, will provide a basis for determining air transportation service level requirements at Ernest A. Love Field. The strength of the local economy and the existing population base are important factors in assessing aviation facility needs over the planning period. Consideration and evaluation of these factors as part of this study is imperative.

POPULATION

The population growth trend is important when assessing the potential users of air transportation and forecasting future demands at an airport. The size and structure of the local communities and the service area that the airport supports are important factors to consider when planning airport facilities. These factors provide an understanding of the economic base that is needed to determine future airport requirements.

Population statistics, shown in **Table 1D, Population Trends**, were obtained from the Arizona Department of Economic Security (ADES). The table depicts a comparison of population growth between the jurisdictions which make up the service area of Ernest A. Love Field, as well as the population statistics for the County and the State.

TABLE 1D
Population Trends

	Actual		Projections		
Jurisdiction	**1980**	**1990**	**1995**	**2000**	**2020**
City of Prescott	19,865	26,455	29,448	32,636	47,724
Town of Prescott Valley	2,284	8,858	12,256	15,874	33,001
Town of Chino Valley	2,858	4,837	5,727	6,674	11,160
Yavapai County	68,145	107,714	127,500	147,675	225,650
State of Arizona	2,716,546	3,665,228	4,184,700	4,709,225	6,802,875

Sources: U.S. Census Bureau and the Arizona Department of Economic Security

EMPLOYMENT

A review of the employment for Yavapai County, as depicted in **Exhibit 1F, Employment by Sector**, shows strong increases in all employment sectors occurring over the last decade. The lowest percentage increase (14.0 percent) was in the Agriculture, Mining, Forestry, and Fisheries sector, with the largest percentage increase (97.8 percent) in the Retail Trade sector. In 1990, the Services sector accounted for approximately 36 percent of the total employment, while Wholesale Trade was the lowest percentage at 2.6 percent.

INCOME

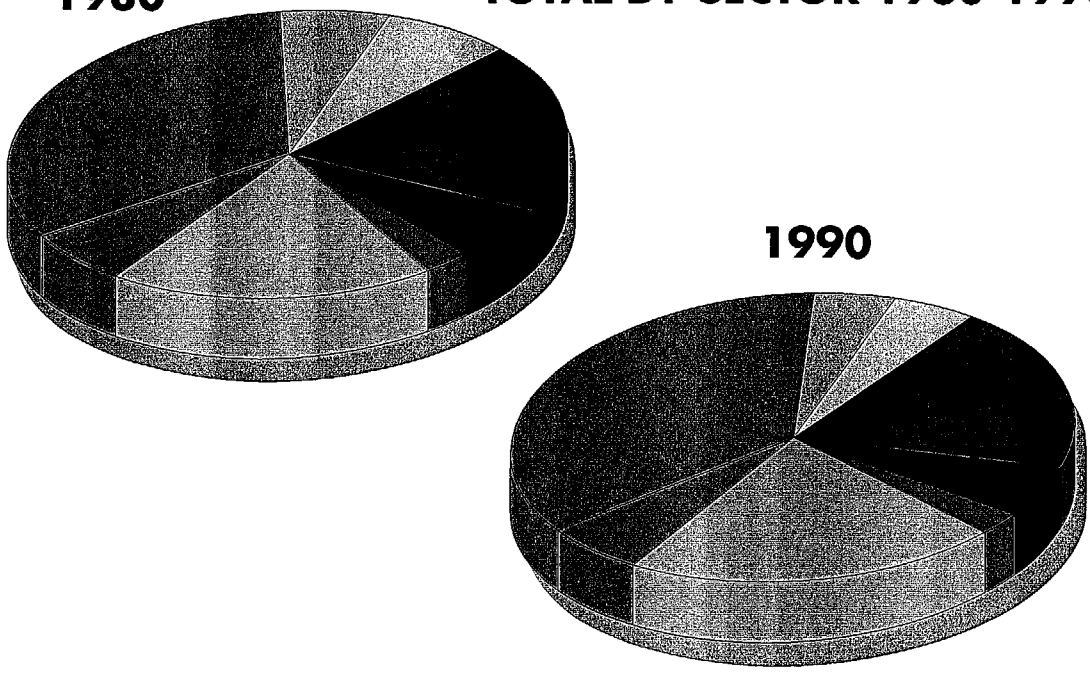
Per capita personal income (PCPI) information in **Exhibit 1G, Per Capita Income**, was obtained from the U. S. Department of Commerce, Economic and Statistics Administration. PCPI information from 1983 to 1993 for Yavapai County is compared to figures from the State of Arizona and the United States.

In 1993, Yavapai County had a PCPI of $15,733 which rank 4th in the State, and was 87 percent of the State and 76 percent of the national average. In 1983, Yavapai County had a PCPI of $10,017, which ranked 3rd in the State. The Yavapai County average annual growth rate of PCPI over this 10 year period was 4.6 percent. The State average annual growth rate was 4.9 percent and for the nation was 5.5 percent. According to **Exhibit 1G**, PCPI in Yavapai County has continued to increase between 1983 and 1993.

LAND USE AND TRANSPORTATION CONSIDERATIONS

The land uses and transportation network around an airport is important to the potential development of facilities. The following sections

EMPLOYMENT PERCENTAGE OF TOTAL BY SECTOR 1980-1990



EMPLOYMENT BY SECTOR 1980-1990
YAVAPAI COUNTY

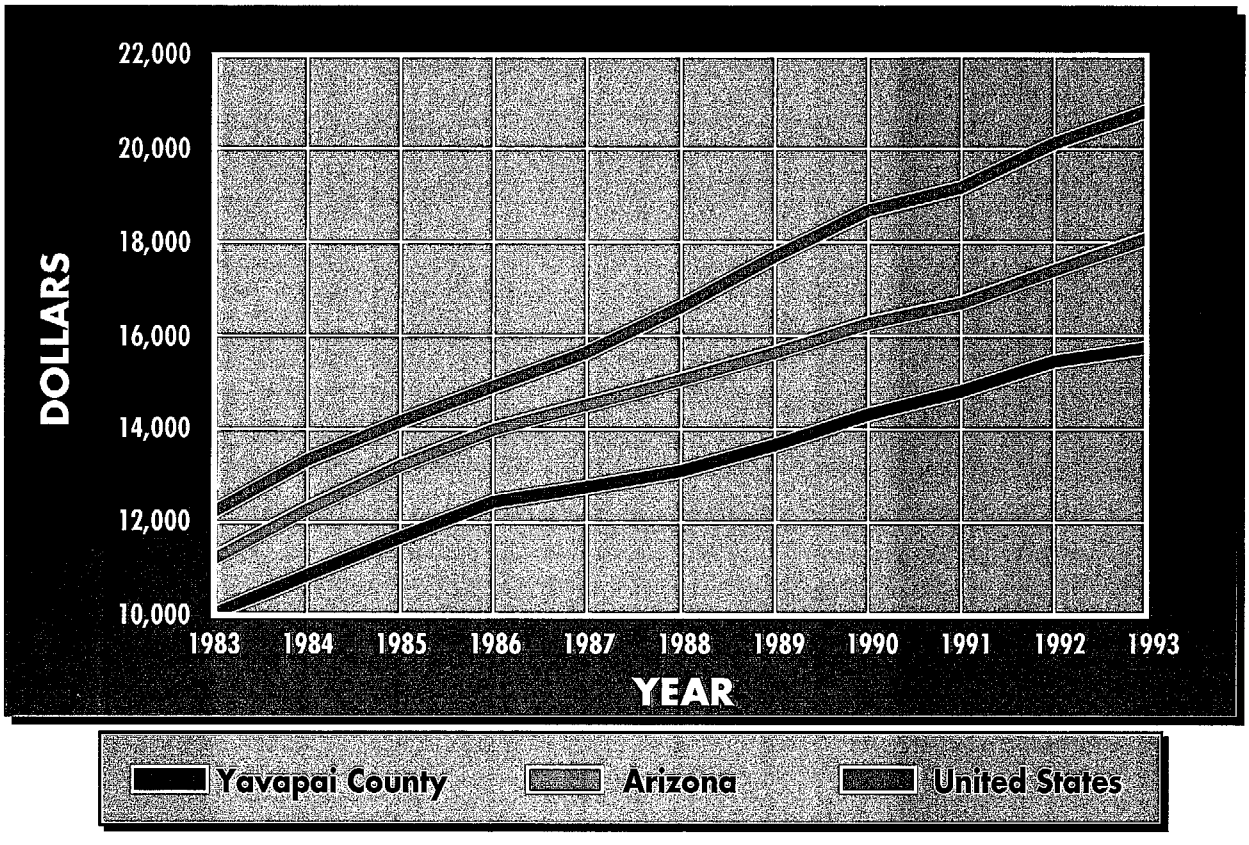
INDUSTRY	1980	1990	% CHANGE
Agriculture, Mining, Forestry & Fisheries	1,806	2,059	14.0
Construction	2,739	4,416	61.2
Manufacturing	1,792	3,319	85.0
Transportation & Public Utilities	1,363	2,232	63.8
Wholesale Trade	604	1,059	75.3
Retail Trade	4,375	8,652	97.8
Finance, Insurance, & Real Estate	1,488	2,409	61.9
Services	7,523	14,402	91.4
Government	1,472	1,808	22.8
TOTALS	23,339	40,356	72.9

ERNEST A. LOVE FIELD

Exhibit 1F
EMPLOYMENT BY SECTOR

94MP06-1G-5/10/96

PER CAPITA INCOME (1983-1993)



PER CAPITA INCOME (1983-1993)

Years	Yavapai County	Arizona	United States
1983	10,017	11,228	12,223
1984	10,867	12,284	13,332
1985	11,671	13,220	14,155
1986	12,440	13,990	14,906
1987	12,756	14,524	15,638
1988	13,100	15,061	16,610
1989	13,659	15,639	17,690
1990	14,309	16,262	18,667
1991	14,807	16,697	19,163
1992	15,447	17,401	20,105
1993	15,733	18,085	20,800

Source: U.S. Department of Commerce, Economic and Statistics Administration
* Adjusted to 1983 dollars

ERNEST A. LOVE FIELD

Exhibit 1G
PER CAPITA INCOME

describe the existing land use in the vicinity of Ernest A. Love Field, as well as the proposed transportation improvements.

EXISTING LAND USE

Ernest A. Love Field is located within the jurisdiction of the City of Prescott, approximately seven miles north of the center of Prescott. The majority of the land surrounding the airport property is under the jurisdiction of Yavapai County and is vacant or undeveloped. A large portion of this land is utilized for agricultural or grazing by area ranchers. South of the airport, less than one-quarter mile, is a residential development associated with the Antelope Hills Golf Course. In addition to these residences, an apartment complex is located immediately west of the airport. Other residential development areas are located along State Route 89 south of the airport, with the closest being approximately one-mile. New residential development is on-going on Willow Creek Road.

Commercial/Industrial parcels are located in parcels adjacent to the airport. These business include manufacturing and retail, as well as Embry-Riddle Aeronautical University. Additional Commercial/Industrial development is located south and southwest of the airport along State Route 89 and Willow Creek Road.

TRANSPORTATION SYSTEM

In 1995, the Central Yavapai County Transportation Study was completed. This multi-jurisdictional effort was conducted to recognize the anticipated population growth of the region and recommend transportation network improvements that would meet the potential demands.

The study prepared the Regional Element, which depicted the recommended improvements in the Prescott area. New roadways corridors were defined, as depicted on **Exhibit 1H, Regional Transportation Plan - Regional Element**, which provided additional access routes in the region. In addition to defining these potential corridors, the study further proposed design guidelines, plan implementation recommendations, and conducted a traffic analysis.

CLIMATE

Ernest A. Love Field experiences a moderate climate with summer temperatures reaching near 90 degrees Fahrenheit and winter highs near 55 degrees Fahrenheit.

Average precipitation during the year averages approximately 18 inches, with an additional 24 inches of snow during the winter months. **Table 1E, Weather Summary**, provides a general tabulation of the weather characteristics in the area.

TABLE 1E
Weather Summary
Prescott, Arizona

	Average Temperature (°F)		
Month	Daily Maximum	Daily Minimum	Average Total Precipitation (inches)
January	50.1	21.5	1.67
February	54.1	24.0	1.22
March	58.0	27.4	1.35
April	66.8	33.5	0.89
May	76.6	40.1	0.36
June	84.9	47.9	0.47
July	88.9	56.9	3.18
August	85.6	55.3	3.45
September	82.0	48.1	1.43
October	72.1	37.3	0.98
November	59.7	27.8	1.21
December	51.6	22.3	1.89
Year	**69.1**	**36.8**	**18.10**
Average Total Snow, Sleet and Hail Annually: 23.7 inches (based on a 30-year average)			

Source: Arizona Department of Commerce, Research and Communication Division; June 1995.

The prevailing winds are generally out of the southwest favoring the use of Runway 21. **Exhibit 1J, Windrose**, illustrates the historical wind data for Ernest A. Love Field from 1948 to 1978. Based on this data, Runway 3-21 provides 96.35 percent wind coverage of the 12 mile per hour (mph) crosswind component and a 98.85 percent coverage of the 15 mph crosswind component. Runway 11-29 provides 92.30 percent and 97.70 percent, respectively. Combining both runways, the 12 mph crosswind component increases to 99.1 percent and the 15 mph crosswind component increases to 99.95 percent. Although these percentages represent general wind patterns in the area, it is not uncommon for occasional storm fronts to generate winds in excess of 50 mph.

SUMMARY

This chapter provides an inventory of those facilities that would effect the future development at Ernest A. Love

94MP06-1H-12/31/97

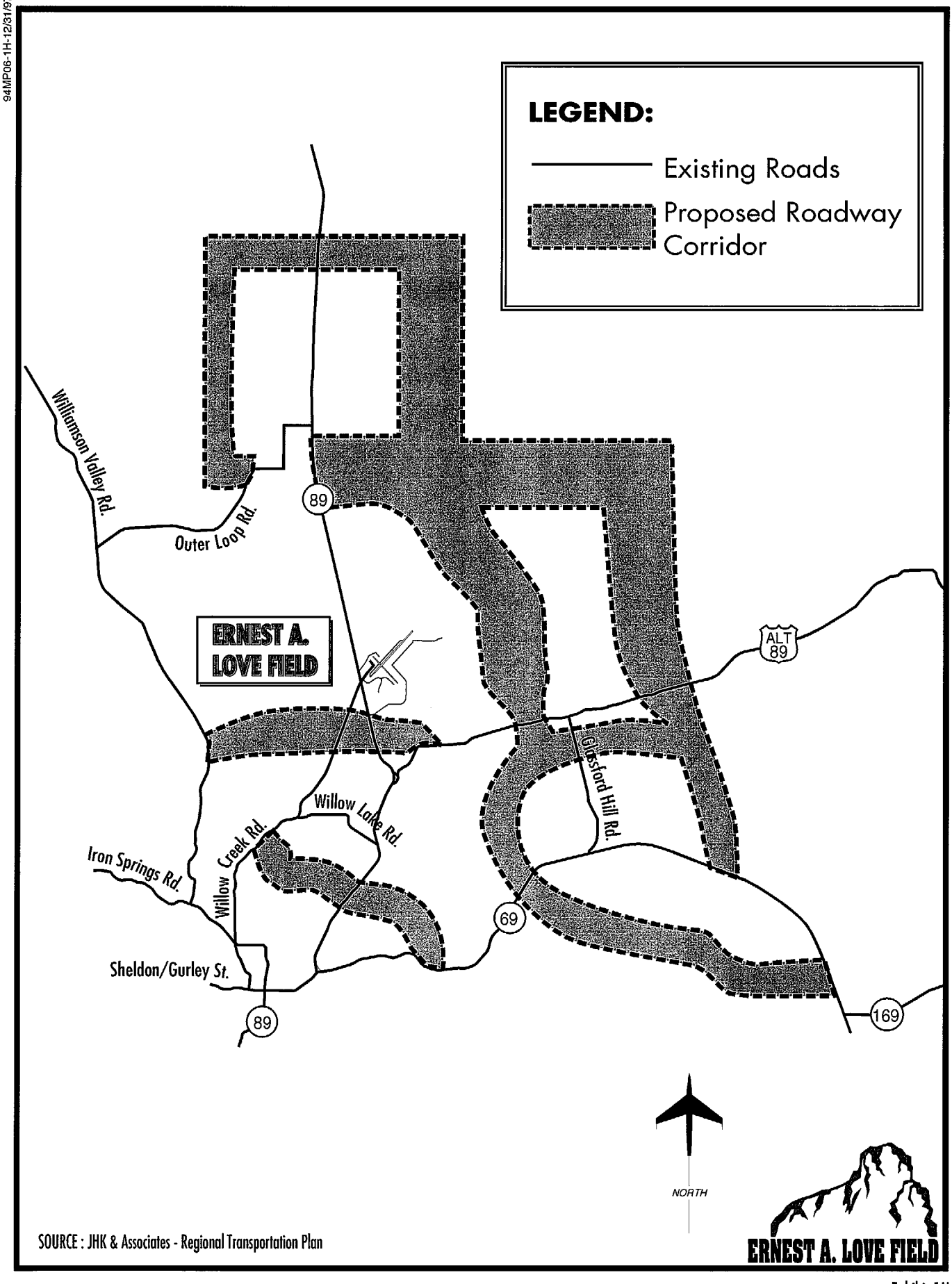
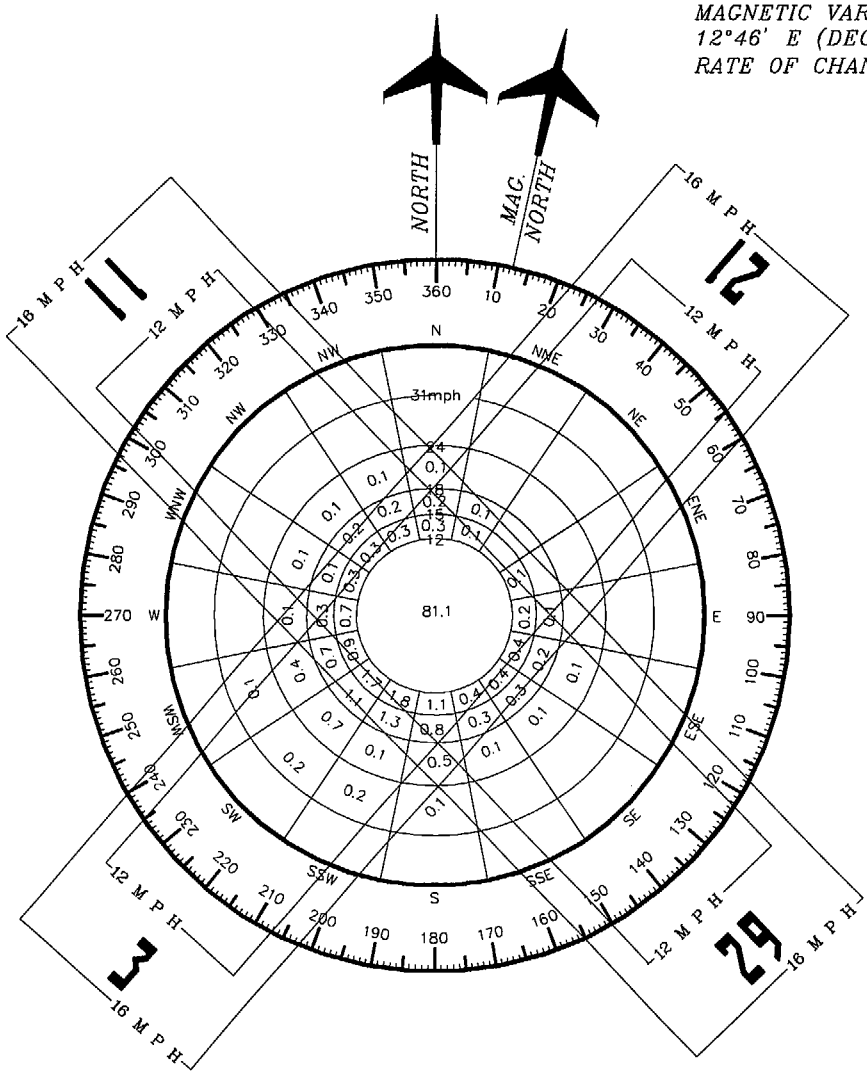


Exhibit 1H
REGIONAL TRANSPORTATION PLAN-REGIONAL ELEMENT

94MP06-1J-12/29/97

MAGNETIC VARIANCE
12°46' E (DEC. 1997)
RATE OF CHANGE: 0.3' W



ALL WEATHER WIND COVERAGE		
	12 M.P.H.	15 M.P.H.
Runway 3–21	*96.35%*	*98.85%*
Runway 11–29	*92.30%*	*97.70%*
Combined Coverage	*99.20%*	*99.95%*

SOURCE:

U.S. Department of Commerce
NOAA – Nat'l. Climate Center
Ashville, North Carolina

OBSERVATIONS:

Ernest A. Love Field
1948 – 1978

ERNEST A. LOVE FIELD

Exhibit 1J
ALL WEATHER WINDROSE

Field. The data collected for this chapter provides the information necessary to perform subsequent analysis. It also provides the proper prospective from which to develop a realistic Airport Master Plan that will meet the needs of the City of Prescott and the surrounding region. The next chapter will examine the current demand for aviation facilities and how these demands can be expected to change in the future. Projections of aviation activity through the year 2020 will be prepared in order to identify the necessary facilities required to meet this demand.